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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,702	09/06/2003	Paul F. Havala	064731.0389	8258
5073	7590	07/30/2007		
BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980			EXAMINER HSU, ALPUS	
			ART UNIT	PAPER NUMBER
			2616	
			NOTIFICATION DATE	DELIVERY MODE
			07/30/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/656,702

Applicant(s)

HAVALA, PAUL F.

Examiner

Alpus H. Hsu

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/10/03, 1/13/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

Art Unit: 2616

1. The drawings are objected to because block 122 in Figures 2, 5 and 9, and block 129 in Figures 2 and 9, all should be labeled with descriptive legends known in the art. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WAKAYAMA et al. in U.S. Patent No. 7,079,544 B2, hereinafter referred to as WAKAYAMA,

Art Unit: 2616

in view of PATENAUDE in Pub. No. US 2004/0076166 A1, hereinafter referred to as PATENAUDE.

Referring to claims 1 and 2, WAKAYAMA discloses a Virtual Private Network (VPN) (Figure 1), comprising: a shared Multi Protocol Label Switching (MPLS) network (5); a plurality of Virtual Local Access Networks (VLANs) (7-1-1 to 7-1-5, 7-2-1 to 7-2-5), each coupled to an edge router (1-1 to 1-3) of the shared label switching network; and the edge routers interfacing the VLANs with the shared label switching network.

WAKAYAMA differs from the claims, in that, it does not disclose the feature of having the VLANs each communicating traffic with a corresponding edge router utilizing channelized Ethernet over SONET (EoS), which is well known in the art and commonly used in optical communications environment for electrical/optical data interfacing.

PATENAUDE, for example, from the similar field of endeavor, teaches the use of channelized Ethernet over SONET (EoS) for providing electrical/optical data interfacing (see page 4, paragraphs [0044] to [0045]), which can be easily adopted by one of ordinary skill in the art into the system in WAKAYAMA, to provide proper data format conversion when the system operated under different environment to improve the system adaptability and capability.

Referring to claim 3, WAKAYAMA discloses that the edge routers comprising: a transmit-side edge router operable to convert an ingress VLAN packet received from a VLAN and associated with a VPN to an MPLS packet and to send the MPLS packet to the MPLS network; and a receive-side edge router operable to convert the MPLS packet received from the MPLS network to an egress VLAN packet and sending the egress VLAN packet to a VLAN associated with the VPN (see col. 4, line 33 to col. 6, line 18).

Art Unit: 2616

Referring to claims 4-6, WAKAYAMA discloses that the edge routers each comprising a first table storing correspondence between VLAN identifiers (VIDs) contained in VLAN packets and VPN labels contained in MPLS packets; wherein the transmit-side edge router finds a VPN label, which corresponds to a VLAN identifier (VID) of a VLAN packet, from the first table, generates an MPLS packet having the VPN label and sends the MPLS packet to the MPLS network; and wherein the receive-side edge router finds a VID, which corresponds to a VPN label contained in an MPLS packet received from the MPLS network, from the first table, generates a VLAN packet having the VID and sends the VLAN packet to a VLAN indicated by the VID (see col. 4, line 33 to col. 6, line 18).

Referring to claim 7, WAKAYAMA discloses that each edge routers comprises: a route decision unit for determining a route which directs an MPLS packet to a receive-side edge router; a second table for storing forwarding labels, which specify routes decided by the route decision unit, mapped to addresses of receive-side edge routers; and the transmit-side edge router finds a receive-side edge router corresponding to a destination of a packet, finds a forwarding label, which corresponds to the receive-side edge router, from the second table, generates an MPLS packet that contains the VPN label and the forwarding label and sends the MPLS packet to the MPLS network (see col. 4, line 33 to col. 6, line 18).

Referring to claims 8, 9 and 11, WAKAYAMA discloses that a first edge router which constructs the VPN and is connected to a VLAN sends a second edge router an address set including an address of a VLAN-compatible device connected to the first edge router and the address of the first edge router, and each edge router creates a routing table based upon the received information; wherein the transmit-side edge router finds a receive-side edge router,

Art Unit: 2616

which corresponds to the destination of the packet, from said routing table; and wherein the transmit-side edge router inserts user priority information, which is contained in a tag of a VLAN packet, into a label of an MPLS packet as IP precedence information of the MPLS network, and the receive-side edge router inserts IP precedence information, which is contained in the label of an MPLS packet, into the tag of a VLAN packet as user 25 priority information of the VLAN (see col. 4, line 33 to col. 6, line 18).

Referring to claim 10, WAKAYAMA in view of PATENAUE fails to disclose that the transmit-side edge router discards a VLAN packet having a VID value that is greater than a set value. However, WAKAYAMA does disclose the feature of discarding packet that does not belong to the communication session (see col. 5, lines 16-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to discard the packet that has different VLAN ID at the transmitting edge router in order to improve the throughput of the network.

Referring to claims 12-15, WAKAYAMA discloses an edge router (1-1 to 1-3) of a shared Multi Protocol Label Switching (MPLS) network (5), comprising: one or more Virtual Private Network (VPN) units (11) coupled to the Ethernet interfaces and operable to identify a VPN for the VLAN packets and to send the VLAN packets to a corresponding VPN subrouter (12) based on the VPN; and each VPN subrouter operable to convert the VLAN packets to a label switching packet for transmission over the shared label switching network in the VPN; wherein each VPN subrouter is operable to convert a VLAN packet to an MPLS packet for transmission over the shared MPLS network by replacing a tag of the VLAN packet with a VPN label and a forwarding label; and wherein each VPN subrouter is further operable to convert the

Art Unit: 2616

VLAN packet to the MPLS packet for transmission over the shared MPLS network by inserting user priority information from the tag of the VLAN packet into a label of the MPLS packet (see col. 4, line 33 to col. 6, line 18).

WAKAYAMA differs from the claims, in that, it does not disclose the feature of having the VLANs each communicating traffic with a corresponding edge router utilizing an Ethernet over SONET (EoS) line card, which is well known in the art and commonly used in optical communications environment for electrical/optical data interfacing.

PATENAUE, for example, from the similar field of endeavor, teaches the use of an Ethernet over SONET (EoS) line card for providing electrical/optical data interfacing (see page 4, paragraphs [0044] to [0045]), which can be easily adopted by one of ordinary skill in the art into the system in WAKAYAMA, to provide proper data format conversion when the system operated under different environment to improve the system adaptability and capability.

Referring to claims 16-20, WAKAYAMA discloses a method for receiving ingress VLAN packets associated with one or more Virtual Private Networks (VPNs); determining a VPN associated with each ingress packet; and converting each ingress packet to an egress label switching packet based on the associated VPN for transmission over a shared Multi Protocol Label Switching (MPLS) network (see col. 4, line 33 to col. 6, line 18).

WAKAYAMA differs from the claims, in that, it does not disclose the feature of receiving a SONET frame including a plurality of Ethernet channels or receiving a channelized Ethernet over SONET (EoS) signal comprising a plurality of Ethernet channels, which are well known in the art and commonly used in optical communications environment for providing optical to electrical data communication.

Art Unit: 2616

PATENAUDE, for example, from the similar field of endeavor, teaches the use of an Ethernet over SONET (EoS) line card for providing electrical/optical data interfacing (see page 4, paragraphs [0044] to [0045]), which can be easily adopted by one of ordinary skill in the art into the system in WAKAYAMA, to provide proper data format conversion when the system operated under different environment to improve the system adaptability and capability.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rekhter et al., Sakamoto et al., Burns et al., Miki et al., Hurren et al., Langille et al., Kermarec et al., and Shankar et al. are all cited to show the common feature of virtual private network utilizing edge/interwork routers/nodes for communicating data from different LANs/VLANs similar to the claimed invention.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alpus H. Hsu whose telephone number is (571)272-3146. The examiner can normally be reached on M-F (5:30-3:00) First Friday Off.

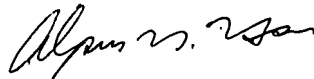
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571)272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AHH



Alpus H. Hsu  
Primary Examiner  
Art Unit 2616